

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (currently amended) A comparative inspection device comprising:
a stage on which an object is mounted and which moves said object;
a detector for detecting an image of said object on said stage, said image
comprising a plurality of inspection image regions, and for outputting an image signal; and
an image processing unit for receiving said image signal, determining a plurality
of offsets for said plurality of inspection image regions relative to a plurality of corresponding
reference image regions, and determining a selected offset out of a set of offsets of the plurality
of offsets; wherein said set has at least one high reliability offset of said plurality of offsets[.]
a comparing unit for aligning an inspection image and a reference image using
said selected offset and comparing said aligned inspection image and said reference image to
detect a defect candidate; and
a feature extracting unit for extracting a feature of said defect candidate.
2. (currently amended) The comparative inspection device of claim 1,
wherein said plurality of corresponding reference image regions are related to a time delayed
plurality of inspection image regions, wherein said inspection image is an entire image of said
object.
3. (original) The comparative inspection device of claim 1, wherein said
selected offset is used to align an entire inspection image and an entire reference image.
4. (original) The comparative inspection device of claim 1, wherein a
reliability of an offset of said set is a high reliability offset if a pattern on an image region of said
first image regions is dense and is a low reliability offset if said pattern is sparse.

5. (original) The comparative inspection device of claim 1 wherein a reliability of an offset of said set is evaluated by comparing said offset with a predicted offset from past variations of offsets.

6. (currently amended) ~~A method for aligning~~ comparative inspection ~~images~~ device comprising:

an image detection means for detecting a plurality of inspection image regions;

an offset determining means for detecting offsets for said plurality of inspection image regions;

an offset selection means for determining a selected offset with a high reliability from said offsets; ~~and~~

an alignment means for aligning an entire inspection image and an entire reference image using said selected offset[.]; ~~and~~

a comparing means for comparing said aligned inspection image and said reference image to detect a defect candidate; and

a feature extracting unit for extracting a feature of said defect candidate.

7. (currently amended) ~~A method for aligning a first image having a circuit pattern in a semiconductor material with a second image, using an computer, comparative inspection,~~ said method comprising:

detecting a first image of a specimen;

detecting a second image of a specimen;

dividing said first image into a plurality of ~~regions~~ divisional images;

dividing said second image into a plurality of corresponding ~~regions~~ divisional images;

calculating offsets between said plurality of divisional images and said plurality of corresponding divisional images;

determining an offset between said first image and said second image out of a set of offsets between said calculated offsets; a first region offset of a first region of said plurality of regions from a first corresponding region of said plurality of corresponding regions; and

aligning said first image and said second image using said selected offset; and

comparing said aligned first image and said second image to detect a defect candidate. using said first region offset in determining an image offset for said first image.

8-10. (canceled).

11. (currently amended) ~~The A method of~~ according to the claim 6 ~~7~~ wherein, when images are received consecutively, full-image offset reliability of said image offset for said first image is evaluated and, if said full-image offset reliability is low, said first image is aligned using a past offset having a high full-image offset reliability.

12. (currently amended) ~~The method of~~ according to the claim 6 ~~7~~ wherein, when images are received consecutively, if an evaluation of full-image offset reliability for said image offset determines that full-image offset reliability is high, said image offset is stored as reference data for subsequent image alignments.

13. (currently amended) ~~The A method of~~ according to the claim 6 ~~7~~ wherein, when images are received consecutively, full-image offset reliability is determined by comparing collected past offsets with high full-image offset reliability with said image offset.

14-21. (canceled).

22. (currently amended) ~~A method for aligning an inspection image and a reference image, wherein a difference between said inspection image and said reference image is used in determining~~ detecting defects in a semiconductor material device, said method comprising:

~~partitioning said~~ dividing an inspection image ~~of said semiconductor device~~ obtained by capturing an image of said semiconductor device into a plurality of inspection sub-images;

~~partitioning said~~ dividing a reference image ~~of said semiconductor device~~ obtained by capturing an image of said semiconductor device into a ~~corresponding~~ plurality of corresponding sub-images each of which correspond to one of said inspection sub-images;

forming a plurality of sub-image sets, each sub-image set comprising ~~a sub-image~~ one of said ~~plurality of~~ inspection sub-images and a corresponding one ~~sub-image~~ of said ~~corresponding plurality of~~ corresponding sub-images;

~~determining~~ calculating a plurality of offsets for said plurality of sub-image sets;

determining an image offset using ~~a plurality of selected offsets~~ between said inspection image and said reference image from said calculated plurality of offsets; ~~and~~
aligning said inspection image ~~with~~ and said reference image using said determined image offset[.]; and
comparing said aligned inspection image and said reference image to detect a defect candidate.

23-26. (canceled).

27. (currently amended) ~~The~~ A method of according to the claim 21 22 wherein an offset of said plurality of offsets is determined using a correlation matrix for a sub-image set of said plurality of sub-image sets.

28. (currently amended) ~~The~~ A method of according to the claim 26 27 wherein said offset is a selected offset when said correlation matrix has a largest value above a predetermined threshold.

29. (currently amended) ~~The~~ A method of according to the claim 21 22 wherein said determining said image offset using selected offsets, comprises using correlation matrices associated with said selected offsets to determine a composite correlation matrix, and using said composite correlation matrix to determine said image offset.

30. (currently amended) A comparative inspection device of a for aligning a plurality of images- specimen on which a pattern is formed, of a semiconductor wafer, said device comprising:

a detector, comprising a plurality of sensor channels, for receiving a current image of said plurality of images, wherein a sensor channel of said plurality of sensor channels receives a portion of said current image of said pattern formed on said specimen; and

an image processing unit coupled to said sensor channel for receiving a current image of said pattern from said detector and determining an offset between said portion of said current image and a corresponding previously-detected portion of a previous image of said plurality of images- from a plurality of offset information between plural portions of said current image and a plural portions of said corresponding beforehand previously-detected image; and

a defect inspection unit which aligns said current image and said corresponding previously-detected image by using said determined offset and compares said aligned current image and said corresponding previously-detected image to detect difference between said aligned current image and said corresponding previously-detected image as a defect.

31. (currently amended) ~~The~~ A comparative inspection device ~~of~~ according to the claim 29 30 wherein said offset is used in determining an alignment offset ~~for~~ between said current image and said corresponding previously-detected image.

32. (canceled).

33. (currently amended) The comparative inspection device of claim ~~29~~ 30, further comprising a delay memory for storing said corresponding portion.

34-38. (canceled).

39. (new) A method according to the claim 7, further comprising ~~a step of~~ extracting a feature of said defect candidate.

40. (new) A method according to the claim 22, further comprising ~~a step of~~ extracting a feature of said defect candidate.

41. (new) A comparative inspection device according to the claim 30, further comprising a feature extracting unit for extracting a feature of said detected defect.